

ABSTRACT OF THE DISCLOSURE

A Czochralski single crystal pulling apparatus having a one or more active damping modules used to reduce or eliminate unwanted orbital motion during crystal growth. The active damping module utilizes the mass of the crystal and the pendular length to determine the critical damping coefficient. A controller continually adjusts a control loop dampener to keep the active damping module at the critical dampening coefficient during crystal growth. A wire interceptor is located near the pulling wire, such that if a growing crystal experiences orbit, the pull wire will contact the wire interceptor, and the pendular energy associated with orbit will be transferred to, and absorbed by, the active damping module.